USPATFULL


```
> file registry
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STRUCTURE FILE UPDATES:    9 MAR 2006  HIGHEST RN 876338-69-1
DICTIONARY FILE UPDATES:   9 MAR 2006  HIGHEST RN 876338-69-1

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TSCA INFORMATION NOW CURRENT THROUGH January 6, 2006

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

*********************************************************************
*                                                                   *
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added,   *
* effective March 20, 2005.  A new display format, IDERL, is now    *
* available and contains the CA role and document type information. *
*                                                                   *
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Structure search iteration limits have been increased.  See HELP SLIMITS
for details.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html

=> d L24
L24         ANALYZE L8 1- LC :       3 TERMS

TERM #   # OCC  # DOC  % DOC LC
------ ------- ------ ------ ---------------
     1      22     22 100.00 CA
     2      22     22 100.00 CAPLUS
     3      22     22 100.00 USPATFULL
*********  END OF L24***


=> file uspatfull
FILE 'USPATFULL' ENTERED AT 15:28:51 ON 10 MAR 2006
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FILE COVERS 1971 TO PATENT PUBLICATION DATE: 9 Mar 2006 (20060309/PD)
FILE LAST UPDATED: 9 Mar 2006 (20060309/ED)
HIGHEST GRANTED PATENT NUMBER: US7010810
HIGHEST APPLICATION PUBLICATION NUMBER: US2006053519
CA INDEXING IS CURRENT THROUGH 7 Mar 2006 (20060307/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 9 Mar 2006 (20060309/PD)
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file beilstein


```
=> file beilstein
FILE 'BEILSTEIN' ENTERED AT 14:37:47 ON 10 MAR 2006
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FILE LAST UPDATED ON JANUARY 17, 2006

FILE COVERS 1771 TO 2005.
*** FILE CONTAINS  9,428,406 SUBSTANCES ***

>>>PLEASE NOTE: Reaction Data and substance data are stored in
   separate documents and can not be searched together in one query.
   Reaction data for BEILSTEIN compounds may be displayed
   immediately with the display codes PRE (preparations) and REA
   (reactions).  A substance answer set retrieved after the search
   for a chemical name, a compounds with available reaction
   information by combining with PRE/FA, REA/FA or more generally
   with RX/FA. The BEILSTEIN Registry Number (BRN) is the link
   between a BEILSTEIN compound and belonging reactions. For mo
   detailed reaction searches BRNs can be searched as reaction
   partner BRNs Reactant BRN (RX.RBRN) or Product BRN (RX.PBRN).<<<

>>> FOR SEARCHING PREPARATIONS SEE HELP PRE  <<<

**********************************************************************
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* SET NOTICE FEATURE: THE COST ESTIMATES CALCULATED FOR SET NOTICE    *
* ARE BASED ON THE HIGHEST PRICE CATEGORY. THEREFORE; THESE           *
* ESTIMATES MAY NOT REFLECT THE ACTUAL COSTS.                         *
* FOR PRICE INFORMATION SEE HELP COST                                 *
**********************************************************************
    NEW
* PATENT NUMBERS (PN) AND BABS ACCESSION NUMBERS (BABSAN) CAN NOW BE
  SEARCHED, SELECTED AND TRANSFERRED.
* NEW DISPLAY FORMATS ALLREF, ALLP AND BABSAN SHOW ALL REFERENCES,
  ALL PATENT REFERENCES, OR ALL BABS ACCESSION NUMBERS FOR A
  COMPOUND AT A GLANCE.

=> d stat que L11
L6              STR
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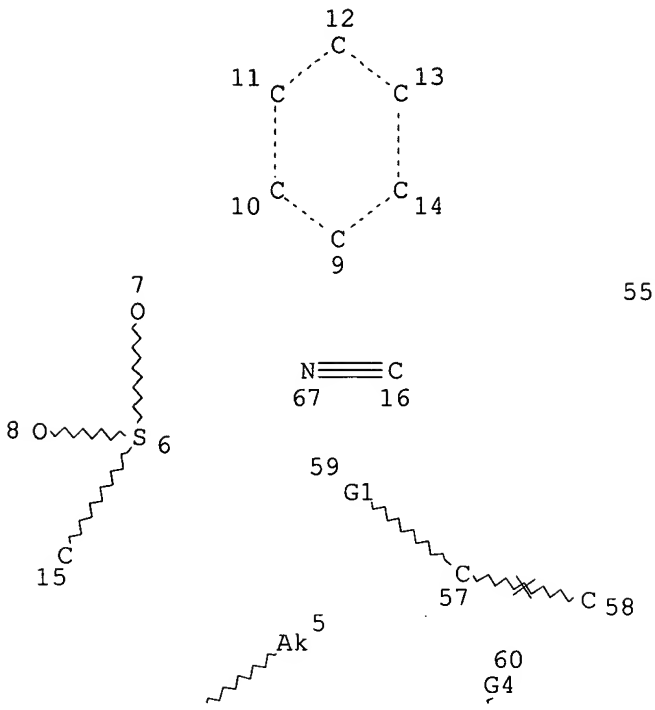
O 68 S 69



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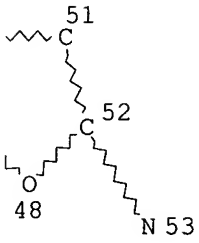

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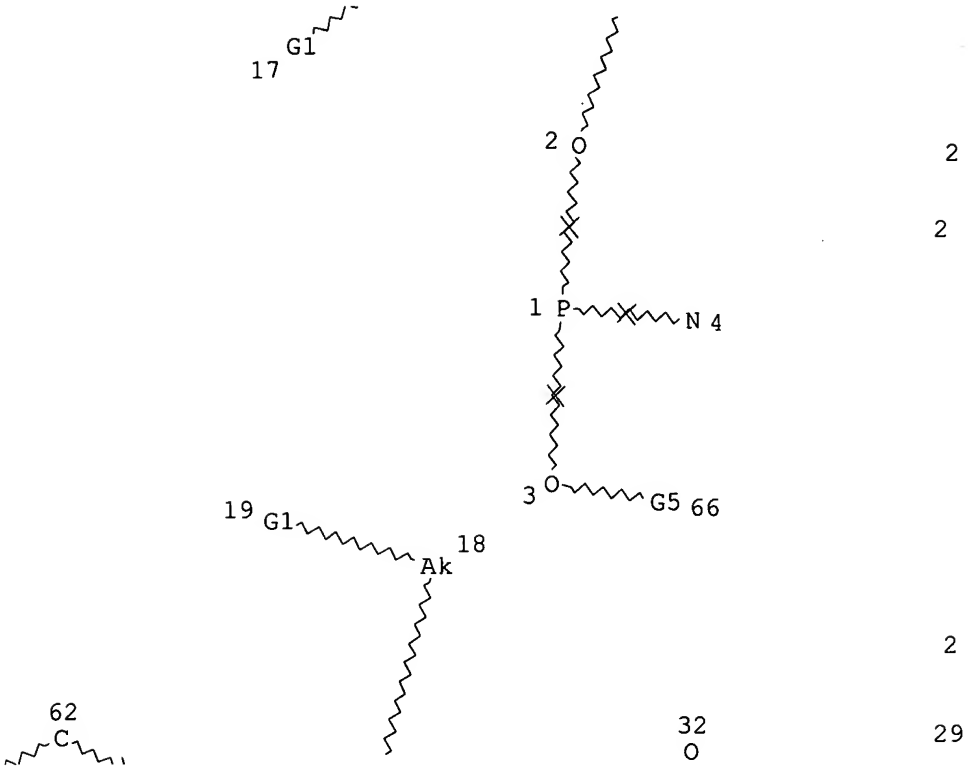
Page 1-B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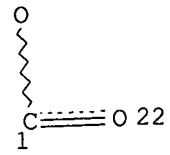
Page 2-A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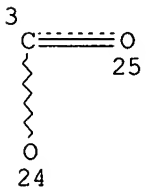
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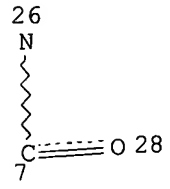
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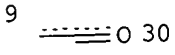
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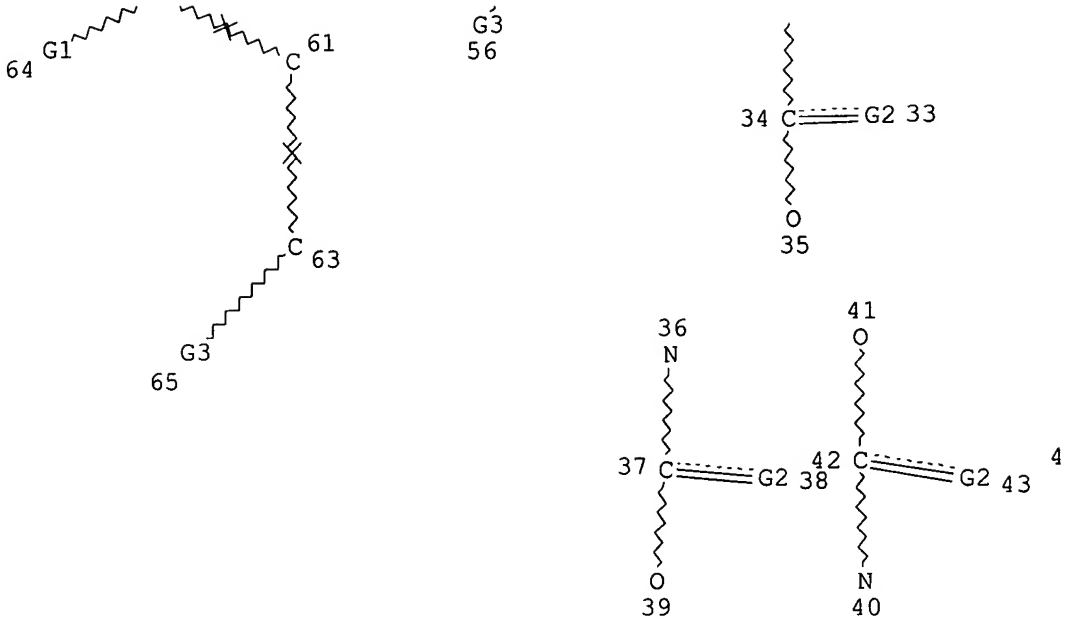

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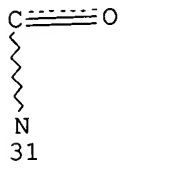

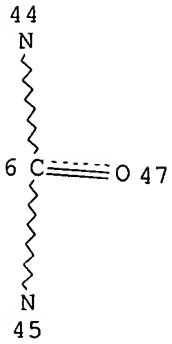

Page 3-B
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VAR G4=5/58
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RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  69

STEREO ATTRIBUTES: NONE
L11           1 SEA FILE=BEILSTEIN SSS FUL L6

100.0% PROCESSED    5297 ITERATIONS                          1 ANSWERS
SEARCH TIME: 00.00.11


=> d ide allref L11 1


L11  ANSWER 1 OF 1 BEILSTEIN COPYRIGHT 2006 BEILSTEIN MDL on STN

     Beilstein Records (BRN):        9686389
     Chemical Name (CN):             (3-<4-cyano-3-<(2-cyano-ethoxy)-
                                     diisopropylamino-phosphanyloxy>-
                                     butyrylamino>-propyl)-carbamic acid
                                     2-<bis-(4-methoxy-phenyl)-phenyl-
                                     methoxymethyl>-5-(5-methyl-2,4-dioxo-3,4-
                                     dihydro-2H-pyrimidin-1-yl)-tetrahydro-
                                     furan-3-yl ester
     Autonom Name (AUN):             (3-<4-cyano-3-<(2-cyano-ethoxy)-
                                     diisopropylamino-phosphanyloxy>-
                                     butyrylamino>-propyl)-carbamic acid
                                     2-<bis-(4-methoxy-phenyl)-phenyl-
                                     methoxymethyl>-5-(5-methyl-2,4-dioxo-3,4-
                                     dihydro-2H-pyrimidin-1-yl)-tetrahydro-
                                     furan-3-yl ester
     Molec. Formula (MF):            C49 H62 N7 O11 P
     Molecular Weight (MW):          956.04
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                                     1779, 1762, 289
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     Compound Type (CTYPE):          heterocyclic
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     Tautomer ID (TAUTID):           9079791
     Entry Date (DED):               2004/07/21
     Update Date (DUPD):             2004/07/21
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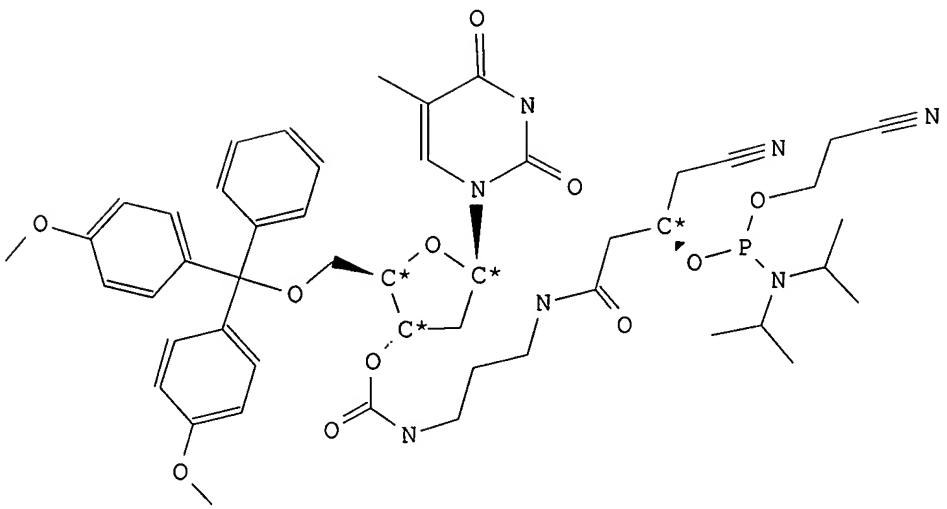

Field Availability:

Code	Name	Occurrence
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CN	Chemical Name	1
AUN	Autonomname	1
MF	Molecular Formula	1
FW	Formular Weight	1
LN	Lawson Number	9
FS	File Segment	1
CTYPE	Compound Type	1
CONSID	Constitution ID	1
TAUTID	Tautomer ID	1
DED	Entry Date	1
DUPD	Update Date	1
NMR	Nuclear Magnetic Resonance	4

This substance also occurs in Reaction Documents:

Code	Name	Occurrence
RX	Reaction Documents	1
RXPRO	Substance is Reaction Product	1

All References:
ALLREF

1. Leuck, Michael; Vagle, Kurt E.; Roach, J. Shawn; Wolter, Andreas, Tetrahedron Lett., CODEN: TELEAY, 45(2), <2004>, 321 - 324; BABS-6428187

REVISED CLASS FIELDS (/NCL) LAST RELOADED: Dec 2005
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Dec 2005

=> s L8
L27 1 L8

=> dup rem L9 L27
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CA INDEXING COPYRIGHT (C) 2006 AMERICAN CHEMICAL SOCIETY (ACS)
PROCESSING COMPLETED FOR L9
PROCESSING COMPLETED FOR L27
L28 2 DUP REM L9 L27 (1 DUPLICATE REMOVED)
ANSWERS '1-2' FROM FILE CAPLUS

AUTHOR SEARCH


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> file caplus
FILE 'CAPLUS' ENTERED AT 15:07:20 ON 10 MAR 2006
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FILE COVERS 1907 - 10 Mar 2006  VOL 144 ISS 12
FILE LAST UPDATED: 9 Mar 2006  (20060309/ED)

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'OBI' IS DEFAULT SEARCH FIELD FOR 'CAPLUS' FILE

=> s vagle k?/au
L17          16 VAGLE K?/AU

=> s leuck m?/au
L18          14 LEUCK M?/AU

=> s wolter a?/au
L19         188 WOLTER A?/AU

=> s L17 and L18-L19
L20           3 L17 AND (L18 OR L19)

=> s L18 and L19
L21           9 L18 AND L19

=> s L20-L21
L22          10 (L20 OR L21)

=> d ibib abs hitind L22 1-10

L22  ANSWER 1 OF 10  CAPLUS  COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER:        2005:1151435  CAPLUS
TITLE:                   A novel amino-ON CPG-support for the synthesis of
                         3'-aminoalkylated oligonucleotides
AUTHOR(S):               Leuck, Michael; Giare, Rubina; Zien, Nicole;
                         Paul, Matthias; Wolter, Andreas
CORPORATE SOURCE:        Proligo Biochemie GmbH, Hamburg, Germany
SOURCE:                  Nucleosides, Nucleotides & Nucleic Acids (2005),
                         24(5-7), 989-992
                         CODEN: NNNAFY; ISSN: 1525-7770
PUBLISHER:               Taylor & Francis, Inc.
DOCUMENT TYPE:           Journal
LANGUAGE:                English
```

AB The synthesis of a novel amino-ON CPG support and its application in the synthesis of 3'-aminoalkylated oligonucleotides is reported. The release of oligonucleotides with free 3'-amino groups is accomplished by treatment with concentrated ammonia for 2 h at 55°C.
CC 33 (Carbohydrates)
REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 2 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:999708 CAPLUS
DOCUMENT NUMBER: 141:424386
TITLE: Novel phosphorylation reagents for improved processes to convert terminal-hydroxyl groups of oligonucleotides into phosphate mono-esters
INVENTOR(S): **Vagle, Kurt; Leuck, Michael; Wolter, Andreas**
PATENT ASSIGNEE(S): Proligo, Llc, USA
SOURCE: U.S. Pat. Appl. Publ., 19 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
US 2004230047	A1	20041118	US 2004-821631		20040409
PRIORITY APPLN. INFO.:			US 2003-461730P	P	20030409

OTHER SOURCE(S): MARPAT 141:424386
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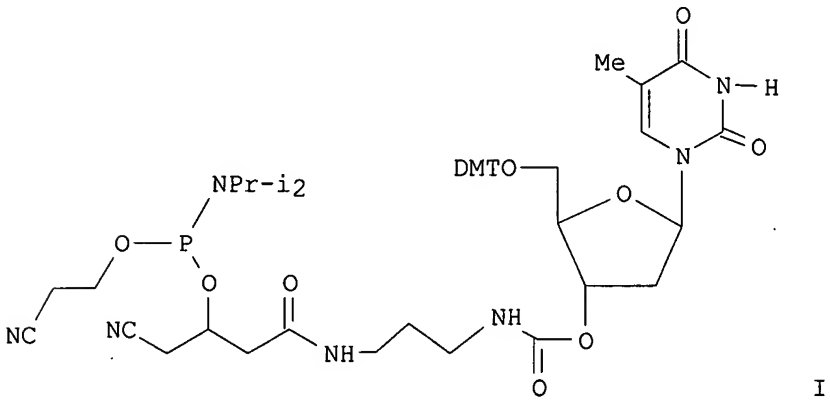

I

AB The present invention discloses novel phosphoramidite reagents for use in oligonucleotide synthesis. The present invention further discloses novel methods for the conversion of terminal hydroxyl groups of oligonucleotides into phosphate mono-esters. By employing novel reagents, as also disclosed herein, the methods are fully compatible with standard procedures for solid phase oligonucleotide synthesis and do not require addnl. processing steps. The inventive reagents to phosphorylate terminal hydroxyl groups of oligonucleotides are superior to the prior art in that they for the first time combine the desired attributes of being a solid compound for facile handling, comprising two β-eliminating protective

groups removable as fast or faster than the standard cyanoethyl group, providing a DMT-group for easy monitoring of the coupling efficiency, and enabling a fast final deprotection of the phosphorylated oligonucleotide without any extra manipulation steps. Thus nucleoside phosphoramidites I was prepared in synthesis of oligodeoxyribonucleotides.

IC ICM C07H005-06
ICS C07H021-04
INCL 536018700; 536025300; 536117000
CC 33-10 (Carbohydrates)

L22 ANSWER 3 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:934375 CAPLUS
DOCUMENT NUMBER: 141:395769
TITLE: Preparation of solid supports for the synthesis of 3'-amino oligodeoxyribonucleotides
INVENTOR(S): **Leuck, Michael; Wolter, Andreas**
PATENT ASSIGNEE(S): Proligo Llc, USA
SOURCE: U.S. Pat. Appl. Publ., 25 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
US 2004220397	A1	20041104	US 2004-830484		20040421
PRIORITY APPLN. INFO.:			US 2003-464269P	P	20030421

OTHER SOURCE(S): MARPAT 141:395769
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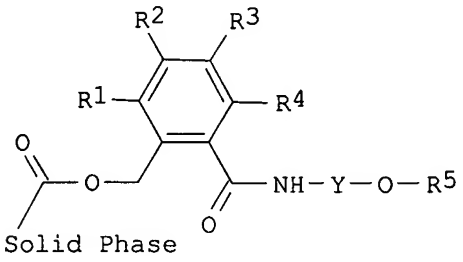

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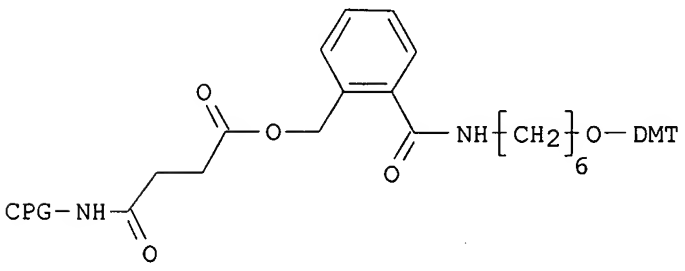


II

AB The present invention discloses novel methods and solid supports for the synthesis of 3'-amino oligodeoxyribonucleotides I, wherein R1-R4 are independently H, alkyl, heteroalkyl, Ph, alkoxy, heteroalkoxy, carboxy, alkyloxycarbonyl, alkylcarbamoyl, halo, cyano, nitro, sulfo, alkylsulfonyl; R5 is H or a protective group that is removed in the first deblocking step of a solid phase oligonucleotide synthesis; and Y is an organic spacer group comprising a straight or branched chain of one or more methylene groups, wherein the chain is optionally interrupted by one or more moieties independently selected from the group consisting of oxygen atoms, carbonyl groups, amide groups, ureido groups, urethane groups and aryl groups. The novel supports are based on an unsubstituted or ring-substituted hydroxymethyl-benzoyl linker element wherein the hydroxymethyl group is esterified to a solid phase bound carboxylic acid and the carbonyl group is linked to an amino alc. as an amide. The ester function of the support is cleaved under the alkaline deprotection conditions for oligonucleotides to provide a free hydroxymethyl group that aids in the release of the 3'-amino oligonucleotide products with a free amino group through neighbor group participation. The free amino group of the oligonucleotides is available for further conjugation reactions to haptens, reporter groups, surfaces or other small mols. or biomols. The methods provided are particularly mild, do not require any modifications in standard protocols for the synthesis and deprotection of oligonucleotides, provide the 3'-amino oligonucleotides free of side products and do not introduce chiral centers to the oligonucleotides. Thus, polymer support II was prepared in solid phase synthesis of DNA H2N-(CH2)6-O-PO2-d(T10).
IC ICM C07H021-02
ICS C07H021-04
INCL 536025400; 536055300; 536025300
CC 33-10 (Carbohydrates)

L22 ANSWER 4 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:977024 CAPLUS
DOCUMENT NUMBER: 140:253800
TITLE: A novel reagent for the chemical phosphorylation of oligonucleotides
AUTHOR(S): **Leuck, Michael; Vagle, Kurt E.**; Shawn Roach, J.; **Wolter, Andreas**
CORPORATE SOURCE: Proligo Biochemie GmbH Hamburg, Hamburg, D-21147, Germany
SOURCE: Tetrahedron Letters (2004), 45(2), 321-324
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 140:253800
AB A novel phosphoramidite reagent was developed to convert terminal hydroxyl groups of oligonucleotides into phosphate monoesters. The reagent's appearance as a solid foam is advantageous for its manipulation and handling in solid-phase synthesis and improves its thermal stability.
CC 33-9 (Carbohydrates)
REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:977023 CAPLUS
DOCUMENT NUMBER: 140:253809
TITLE: A novel solid support for the synthesis of 3'-amino-alkylated oligonucleotides
AUTHOR(S): **Leuck, Michael**; Giare, Rubina; Paul,

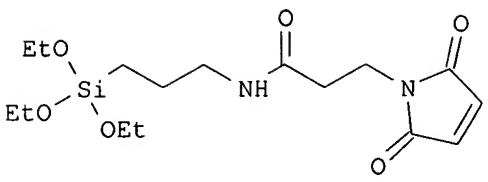
Matthias; Zien, Nicole; **Wolter, Andreas**
CORPORATE SOURCE: Proligo Biochemie GmbH Hamburg, Hamburg, D-21147, Germany
SOURCE: Tetrahedron Letters (2004), 45(2), 317-320
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 140:253809
AB A novel improved controlled pore glass (CPG) support based on the 2-(hydroxymethyl)-6-nitrobenzoyl (HMNB) protecting group was developed for the synthesis of 3'-amino-alkylated oligonucleotides. The release of oligonucleotides with free 3'-amino groups from the support is complete within 2 h at 55 °C in concentrated ammonia.
CC 33-10 (Carbohydrates)
REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 6 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:912711 CAPLUS
DOCUMENT NUMBER: 139:365177
TITLE: Method for immobilizing oligonucleotides employing the Diels Alder cycloaddition bio-conjugation method
INVENTOR(S): Pieken, Wolfgang; **Wolter, Andreas**; Sebesta, David P.; **Leuck, Michael**; Latham-Timmons, Hallie A.; Pilon, John; Husar, Gregory M.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 46 pp., Cont.-in-part of U.S. Ser. No. 341,337.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 7
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003215801	A1	20031120	US 2001-845742	20010501
WO 9830575	A1	19980716	WO 1998-US649	19980108
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 6737236	B1	20040518	US 1999-341337	19990708

PRIORITY APPLN. INFO.:		
WO 1998-US649	W	19980108
US 1999-341337	A2	19990708
US 2000-201561P	P	20000501
US 2001-265020P	P	20010130
US 1997-34651P	P	19970108
US 1997-780517	A2	19970108
US 1997-58206P	P	19970908
US 1998-51449	A2	19980406

OTHER SOURCE(S): MARPAT 139:365177
GI



I

AB This invention discloses a novel method for immobilizing mols. to a support in solid phase synthesis of DNA. Specifically, this invention discloses a method of immobilizing derivatized biomols., such as oligonucleotides and DNA, using cycloaddn. reactions, such as the Diels-Alder reaction. Included in this invention are the novel immobilized biomols. that can be prepared according to the method of this invention. Thus, glass slide CPG-bound maleimide silane reagent I was prepared and submitted to a Diels Alder cycloaddn. with cyclohexadiene-oligodeoxyribonucleotide to give the corresponding polymer supported DNA conjugate.

IC ICM C12Q001-68
ICS G01N033-53; G01N033-542; B05D003-00
INCL 435006000; 435007900; 435007500; 427002110
CC 33-10 (Carbohydrates)
Section cross-reference(s): 6, 9

L22 ANSWER 7 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:714451 CAPLUS
DOCUMENT NUMBER: 140:199624
TITLE: Novel Method for the Covalent Immobilization of Oligonucleotides via Diels-Alder Bioconjugation
AUTHOR(S): Latham-Timmons, Hallie A.; **Wolter, Andreas**; Roach, J. Shawn; Giare, Rubina; **Leuck, Michael**
CORPORATE SOURCE: Proligo LLC, Boulder, CO, 80301, USA
SOURCE: Nucleosides, Nucleotides & Nucleic Acids (2003), 22(5-8), 1495-1497
CODEN: NNNAFY; ISSN: 1525-7770
PUBLISHER: Marcel Dekker, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The synthesis of cyclohexadiene and maleimide derivs. and their use for the functionalization of oligonucleotides and the coating of glass surfaces is reported. A method for the covalent attachment of diene or maleimide modified oligonucleotides to the coated glass surfaces via aqueous Diels-Alder reactions is presented (no data).
CC 33-10 (Carbohydrates)
REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 8 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:591362 CAPLUS
DOCUMENT NUMBER: 139:149462
TITLE: Novel diene capping reagents for the integrated synthesis and purification of oligonucleotides with increased yields and efficient removal of failure sequences
INVENTOR(S): Pieken, Wolfgang; **Wolter, Andreas**;

Leuck, Michael
PATENT ASSIGNEE(S): Proligo, Llc, USA
SOURCE: PCT Int. Appl., 46 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003062452	A2	20030731	WO 2003-US2008	20030122
WO 2003062452	A3	20031204		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003195351	A1	20031016	US 2003-349195	20030122
PRIORITY APPLN. INFO.:			US 2002-351991P P	20020123

OTHER SOURCE(S): MARPAT 139:149462

AB The present invention discloses novel methods for the integrated synthesis and purification of oligonucleotides. The methods employ novel capping reagents carrying two functional groups. The first functional group provides for a smooth and efficient capping process and incorporates the second functional group into contaminant oligonucleotides during solid phase oligonucleotide synthesis. The second functional group functions as a chemical purification handle in the trapping of truncated oligonucleotides (failure sequences) on a solid support. The trapping process creates covalent bonds between the solid support and the truncated oligonucleotides and therefore allows the removal of the truncated sequences from the desired full length oligonucleotide product by filtration. The chemical trapping process employed in this invention is based on cycloaddn. reactions, particularly Diels-Alder reactions between the truncated oligonucleotides and the trapping agent. The invention includes novel solid support compns. that carry covalently attached Diels-Alder reaction components.

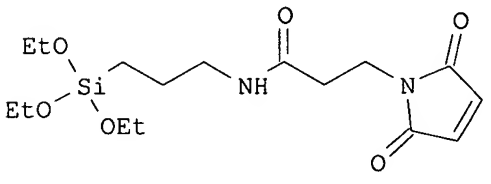
IC ICM C12Q
CC 26-9 (Biomolecules and Their Synthetic Analogs)
Section cross-reference(s): 3

L22 ANSWER 9 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:817076 CAPLUS
DOCUMENT NUMBER: 135:371959
TITLE: Method for immobilizing oligonucleotides employing the Diels Alder cycloaddition bio-conjugation method
INVENTOR(S): Pieken, Wolfgang; **Wolter, Andreas**; Sebesta, David P.; **Leuck, Michael**; Latham-Timmons, Hallie A.; Pilon, John; Husar, Gregory M.
PATENT ASSIGNEE(S): Proligo LLC, USA
SOURCE: PCT Int. Appl., 86 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 7
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001084234	A1	20011108	WO 2001-US13956	20010501
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1287404	A1	20030305	EP 2001-932784	20010501
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2003535317	T2	20031125	JP 2001-580595	20010501
PRIORITY APPLN. INFO.:			US 2000-201561P	P 20000501
			US 2001-265020P	P 20010130
			WO 2001-US13956	W 20010501

OTHER SOURCE(S): MARPAT 135:371959
GI



I

AB This invention discloses a novel method for immobilizing mols. to a support in solid phase synthesis of DNA. Specifically, this invention discloses a method of immobilizing derivatized biomols., such as oligonucleotides and DNA, using cycloaddn. reactions, such as the Diels-Alder reaction. Included in this invention are the novel immobilized biomols. that can be prepared according to the method of this invention. Thus, glass slide CPG-bound maleimide silane reagent I was prepared and submitted to a Diels Alder cycloaddn. with cyclohexadiene-oligodeoxyribonucleotide to give the corresponding polymer supported DNA conjugate.

IC ICM G03C005-00
ICS C07H019-00; C07H019-04
CC 33-10 (Carbohydrates)
Section cross-reference(s): 6
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 10 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:500144 CAPLUS
DOCUMENT NUMBER: 135:257423
TITLE: Diels-Alder Bioconjugation of Diene-Modified Oligonucleotides
AUTHOR(S): Hill, Kenneth W.; Taunton-Rigby, Jon; Carter, Jeffrey D.; Kropp, Eric; **Vagle, Kurt**; Pieken,

Wolfgang; McGee, Danny P. C.; Husar, Gregory M.; **Leuck, Michael**; Anziano, Dominic J.; Sebesta, David P.
CORPORATE SOURCE: NeXstar Pharmaceuticals, Boulder, CO, 80301, USA
SOURCE: Journal of Organic Chemistry (2001), 66(16), 5352-5358
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 135:257423

AB In an effort to offer complementary technol. for covalent biomol. modification (bioconjugation), the authors have developed a method that exploits the aqueous acceleration of Diels-Alder reactions for this purpose. Three different diene phosphoramidite reagents have been synthesized that enable diene modification of synthetic oligonucleotides prepared by the phosphoramidite method. Clean and efficient Diels-Alder cycloaddn. of these diene oligonucleotides with maleimide dieneophiles was carried out, and the labeled oligonucleotide bioconjugates were characterized by HPLC and electrospray mass spectrometry. Dieneophile stoichiometry, temperature, and pH are all parameters that were shown to influence the efficiency of the process.

CC 33-10 (Carbohydrates)
REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

Search history

Krishnan 10/821631 03/10/2006

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> d his full

     (FILE 'HOME' ENTERED AT 14:12:09 ON 10 MAR 2006)

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     FILE 'CAPLUS' ENTERED AT 14:13:32 ON 10 MAR 2006
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L3           1 SEA ABB=ON  PLU=ON  US2004-821631/AP
               D SCA
               SEL RN

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L9           2 SEA ABB=ON  PLU=ON  L8
               D SCA

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L11          1 SEA SSS FUL L6

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               D IDE ALLREF L11 1

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L21            9 SEA ABB=ON  PLU=ON  L18 AND L19
L22           10 SEA ABB=ON  PLU=ON  (L20 OR L21)
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     FILE 'MARPAT' ENTERED AT 15:11:59 ON 10 MAR 2006
                 D STAT QUE L16

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L23            5 DUP REM L9 L16 (1 DUPLICATE REMOVED)
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                       ANSWERS '3-5' FROM FILE MARPAT
                 D IBIB ABS HITSTR L23 1-2
                 D IBIB ABS HIT L23 3-5

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     FILE 'REGISTRY' ENTERED AT 15:27:16 ON 10 MAR 2006
L24              ANALYZE PLU=ON  L8 1- LC :       3 TERMS
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L25            1 SEA ABB=ON  PLU=ON  L8

     FILE 'CAPLUS, USPATFULL' ENTERED AT 15:28:07 ON 10 MAR 2006
L26            2 DUP REM L9 L25 (1 DUPLICATE REMOVED)
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L28 2 DUP REM L9 L27 (1 DUPLICATE REMOVED)
ANSWERS '1-2' FROM FILE CAPLUS

FILE HOME

FILE REGISTRY
Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 9 MAR 2006 HIGHEST RN 876338-69-1
DICTIONARY FILE UPDATES: 9 MAR 2006 HIGHEST RN 876338-69-1

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FILE CAPLUS

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FILE LAST UPDATED: 9 Mar 2006 (20060309/ED)

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FILE STNGUIDE
FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Mar 3, 2006 (20060303/UP).

FILE BEILSTEIN
FILE LAST UPDATED ON JANUARY 17, 2006

FILE COVERS 1771 TO 2005.
FILE CONTAINS 9,428,406 SUBSTANCES

>>>PLEASE NOTE: Reaction Data and substance data are stored in separate documents and can not be searched together in one query. Reaction data for BEILSTEIN compounds may be displayed immediately with the display codes PRE (preparations) and REA (reactions). A substance answer set retrieved after the search for a chemical name, a compounds with available reaction information by combining with PRE/FA, REA/FA or more generally with RX/FA. The BEILSTEIN Registry Number (BRN) is the link between a BEILSTEIN compound and belonging reactions. For mo detailed reaction searches BRNs can be searched as reaction partner BRNs Reactant BRN (RX.RBRN) or Product BRN (RX.PBRN).<<<

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NEW

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FILE MARPAT
FILE CONTENT: 1969-PRESENT VOL 144 ISS 10 (20060303/ED)

SOME MARPAT RECORDS ARE DERIVED FROM INPI DATA FOR 1969-1987

MOST RECENT CITATIONS FOR PATENTS FROM MAJOR ISSUING AGENCIES
(COVERAGE TO THESE DATES IS NOT COMPLETE):

US 2006014764 19 JAN 2006
DE 202005014897 22 DEC 2005
EP 1609846 28 DEC 2005
JP 2005353222 22 DEC 2005
WO 2006003494 12 JAN 2006
GB 2415429 28 DEC 2005

FR 2871802 23 DEC 2005
RU 2266908 27 DEC 2005
CA 2495134 23 DEC 2005

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FILE USPATFULL
FILE COVERS 1971 TO PATENT PUBLICATION DATE: 9 Mar 2006 (20060309/PD)
FILE LAST UPDATED: 9 Mar 2006 (20060309/ED)
HIGHEST GRANTED PATENT NUMBER: US7010810
HIGHEST APPLICATION PUBLICATION NUMBER: US2006053519
CA INDEXING IS CURRENT THROUGH 7 Mar 2006 (20060307/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 9 Mar 2006 (20060309/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Dec 2005
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Dec 2005